LNP™ THERMOCOMP™ COMPOUND Z1C00

DESCRIPTION

THERMOCOMP Z1C00 is an injection moldable compounds with ultra-low dielectric constant under wide frequencies, with other features including dimension stability, high HDT and low water uptake. Target industries are electronics and electrical including 5G applications.

GENERAL INFORMATION	
Features	Heat Stabilized, High Flow, Low Warpage, Non halogenated flame retardant, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Water Management
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Material Handling, Textile

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	69	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	54	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5.2	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	32	%	ASTM D638
Tensile Modulus, 50 mm/min	2350	MPa	ASTM D638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	102	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	2250	MPa	ASTM D790
Tensile Stress, break, 50 mm/min	64	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	70	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.1	%	ISO 527
Tensile Strain, break, 50 mm/min	7.1	%	ISO 527
Tensile Modulus, 1 mm/min	2390	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	106	MPa	ISO 178
Flexural Modulus, 2 mm/min	2370	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	120	J/m	ASTM D256
Izod Impact, notched, -30°C	80	J/m	ASTM D256
Izod Impact, notched 80*10*4 +23°C	12	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
THERMAL			
HDT, 1.82 MPa, 3.2mm, unannealed	169	°C	ASTM D648
Vicat Softening Temp, Rate B/50	191	°C	ASTM D1525

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/50	191	°C	ISO 306
CTE, -40°C to 40°C, flow	7.1E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.9E-05	1/°C	ASTM E831
PHYSICAL [1]			
Specific Gravity	1.06	-	ASTM D792
Melt Flow Rate, 320°C/5.0 kgf	25	g/10 min	ASTM D1238
Mold Shrinkage, flow, 3.2 mm [2]	0.7 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [2]	0.8 – 0.9	%	SABIC method
Density	1.06	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.06	%	ISO 62-1
ELECTRICAL [1]			
Dielectric Constant, 1.9 GHz	2.51	-	SABIC method
Dielectric Constant, 5 GHz	2.54	-	SABIC method
Dielectric Constant, 10 GHz	2.54	-	SABIC method
Dissipation Factor, 1.9 GHz	0.00114	-	SABIC method
Dissipation Factor, 5 GHz	0.00124	-	SABIC method
Dissipation Factor, 10 GHz	0.00175	-	SABIC method
INJECTION MOLDING [3]			
Drying Temperature	110 – 120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	300 – 325	°C	
Nozzle Temperature	300 – 325	°C	
Front - Zone 3 Temperature	290 – 325	°C	
Middle - Zone 2 Temperature	275 – 320	°C	
Rear - Zone 1 Temperature	265 – 315	°C	
Mold Temperature	80 – 110	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	20 – 100	rpm	
Shot to Cylinder Size	30 – 70	%	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(3) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

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